08/807661

ABSTRACT OF THE DISCLOSURE

An apparatus and method for combining NIR spectography with a combine for measuring major constituents of harvested grain in real time includes a ~~monochrometor~~ monochromator having no moving optical parts. The ~~monochrometor~~ monochromator includes a fixed diffraction grating and a photodiode collector comprised of a plurality of photodiodes. A radiation source irradiates a grain sample while a bundle of fiber optic strands transmits the reflected radiation to the diffraction grating. By analyzing the intensities and wavelengths of the reflected radiation at the photodiode collector, the presence and amount of major constituents of the harvested grain can be determined. The present invention may be used on a research combine along with the conventional instrumentation which measures the weight, moisture, and volume of grain harvested in a test plot.